



OPTY-SOLAR SHIELD

Thermal Coating

About Opty-Solar Shield

Opty-Solar Shield is a high performance thermal barrier coating that uses ceramic technology to prevent the transfer of heat or cold. Opty-Solar Shield comes in a liquid sealant form endowing it with a host of additional useful properties. This product can dramatically reduce energy consumption and reflect UV rays, while protecting the structure to which they are applied

- Opty-Solar Shield is a cutting edge thermal barrier:
 - Innovative use of ceramic beads
 - Comes in a water-based liquid form
 - Lightweight, but still sturdy
- Opty-Solar Shield is resource efficient, giving it additional uses:
 - Adhesive sealant
 - Fire retardant
 - Environmentally friendly (Low VOC's--0.0099 lbs/gal / 1.186 grams/liter)
- Opty-Solar Shield is a spray applied Thermal Barrier, which in its simplest definition could be described as an “energy saving paint”
- Opty-Solar Shield is a breathable Vapor Barrier, as well as an air and water barrier
 - Allows entrapped moisture to escape or be released without damage to the coating or substrate surfaces

Ceramic coating addresses and defends against all three modes of heat transfer:

- Radiation- it repels radiated heat
- Convection - it reflects convected heat
- Conduction - it resists conducted heat

Ceramics are most effective at reflecting heat back to the source:

- Ultra Violet (UV) heat (3% of heat)
- Visual Light (short wave) heat (40% of heat)
- Infrared (long wave) heat (57% of heat)
- Non-ceramic reflective coatings ONLY repel visual light (AKA short wave radiation)

- Opty-Solar Shield is a ceramic based insulation coating and not simply a “reflective paint”
- Ceramic materials allow the insulation coating to be a barrier that reduces heat transfer, it is not thermal absorbent. Product can serve as a primary thermal envelope. This product seals the structure and minimizes solar/radiant heat gain.



Advantages & Usage of Opty-Solar Shield

- Easy to use for new or retrofit construction
- Will enhance performance of insulation, HVAC duct work, wall systems, and roof systems
- Works on all types of substrates (metal, brick, cement block, concrete, wood, or sheet rock)
- Opty-Solar Shield guards insulation
- Protects against moisture, thermal transfer, thermal bridging, and conduction;
- Allows trapped moisture to escape
- Provides an environment where insulation behaves like its assigned "R" value.
- Opty-Solar Shield is lightweight
 - Weighs only 5 pounds per gallon in its wet stage (less than 2.5 kilograms per 3.75 liters)
- Typically applied at only 15-20 mils per coat
- When dry will only add 6 pounds to 12 pounds per 100 square feet or 0.29 to 0.59 kilograms per square meter when properly applied
- "One and done" Opty-Solar Shield offers superior coverage:
 - Does not need a primer
 - Does not need a sealant underneath
 - Does not need a corrosive inhibitor
- Opty-Solar Shield is waterproof
- Creates a moisture-proof seal on surfaces it is applied to
- Can be used to waterproof exterior walls
- Other uses include encapsulation and UV blocking for foam
- Opty-Solar Shield has low shrinkage
- Reduces expansion and contraction thus minimizing leaks and damage, which will add life to building
- Self-Priming. Since Opty-Solar Shield contains built in rust/corrosion inhibitors which makes it self-priming unless dealing with harsh or large areas of rust
- No "off-gassing"
- No harmful fumes emitted at any point before during or after use
- Fire retardant
- Corrosion inhibitor
- One gallon can canvass approximately fifty (50) square feet (4.55 square meters)
- Opty-Solar Shield provides a high Thermal Emittance
- Seals a structure and minimizes solar/radiant heat gain to serve as the primary thermal envelope



Opty-Solar Shield Customer Testimonials/Comments

“The thin layer of ceramic insulation you applied to 93C plus degrees steam pipe on our washing system is performing amazingly well. I couldn’t believe that I could place my bare hand on it without injury.”

“Product was applied at our Oil & Chemical Company....purpose for applying to insulate and prevent hardening of the oil, making it difficult to load. Product keeps the oil at a constant temperature until loading time.....also prevents rusting of tanks, lines and treaters.”

“Applied to one oil well pipe line in Florida with temperatures exceeding 265 degrees(F). With this product the temperature was reduced by 100 degrees plus. Previously we had problems keeping any type of paint coating on this well, because of extreme temperature.”

“Our oil company has also used this product on an oil well with highly concentrated heat and temperatures were reduced by at least 100 degrees. We have applied on a metal office building for and the building the temperature dropped over 20 degrees. We also applied 19 mils of the product to the bottom of metal plates with and saw the temperature drop 28 degrees within an hour.”

“We use this to insulate the exhaust systems on our offshore equipment. We have found that three coats will reduce the exhaust temperature from 360 degrees (F) to a temperature which may be touched without burning your hand.”

“After the application of this insulation product, you could keep your hands on the same lines for any length of time with absolutely no heat being detected to the touch! We are extremely pleased with the way your product has maintained its integrity and insulation quality.”

“Our metal area heated at 300 degrees and one could only place a hand within 18 inches of the area. After applying this product, one can easily place a hand directly on the area.”

“Frankly, when I read the literature on the product, I found it extremely difficult to believe that a product could perform as represented. Having no apparent alternatives, I elected to go ahead and purchase some and try it on the duct work. The day the duct work was actually coated was a 95 degrees (F) day. After the last coat of material was applied and dried, I started the air conditioner and went inside to check the air temperature coming out of the inside ducts. To my absolute surprise, when I measured the temperature of the air being released into the room, I found a 22 degrees change between interior and exterior air temperature. In effect, with a very thin coating of the product, I achieved a practical solution to a problem that no conventional insulation could solve.”



Opty-Solar Shield Before & After Application Photos

Heating Ducts BEFORE



Heating Duct AFTER



HVAC Cabinet BEFORE



HVAC Cabinet AFTER

